

CLAIMS

WHAT IS CLAIMED:

1. A method, comprising:

providing a differential signal; and

5 performing a calibration of a gain of at least a portion of said differential signal to affect the longitudinal balance associated with said differential signal, performing said calibration comprises:

receiving a first portion of said differential signal and determining a gain associated with said first portion;

10 receiving a second portion of said differential signal and determining a gain associated with said second portion;

determining a difference between the respective gains of said first and second portions to determine whether said difference is outside a predetermined range of tolerance; and

15 modifying at least one of said gain of said first portion and said gain of said second portion based upon a determination that said difference is outside said predetermined range of tolerance.

2. The method of claim 1, wherein receiving said signal further comprises

20 receiving a telecommunications signal.

3. The method of claim 3, wherein receiving said telecommunications signal further comprises receiving a tip and a ring signal.

25 4. The method of claim 1, wherein performing said calibration further comprises

determining a gain of said tip signal forward path;
determining a gain of said ring signal forward path;
determining a difference in gain between said gain of said tip signal forward path and
said gain of said ring signal forward path; and
5 modifying at least one of a gain of a signal associated with said tip signal forward
path and a gain of a signal associated with said ring signal forward path.

5. The method of claim 4, further comprising modifying said signal associated
with said tip signal forward path and said gain of a signal associated with said ring signal
10 forward path.

6. The method of claim 1, wherein determining a difference between the
respective gains of said first and second portions further comprises applying a test load to an
output associated with said first portion.

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7. The method of claim 1, wherein determining a difference between the
respective gains of said first and second portions further comprises applying a test load to an
output associated with said first portion.

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8. The method of claim 1, wherein applying said test load further comprises
applying a resistive load.

9. An apparatus, comprising:
means for providing a differential signal; and

means for calibrating a gain of at least a portion of said differential signal to affect a longitudinal balance associated with said differential signal, means for performing said calibration comprises:

means for receiving a first portion of said differential signal and
 5 determining a gain associated with said first portion;

means for receiving a second portion of said differential signal and
 determining a gain associated with said second portion;

means for determining a difference between the respective gains of
 said first and second portions to determine whether said
 10 difference is outside a predetermined range of tolerance; and

means for modifying at least one of said gain of said first portion and
 said gain of said second portion based upon a determination
 that said difference is outside said predetermined range of
 tolerance.

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 10. An apparatus, comprising:

a first amplifier to receive a first portion of a differential signal and a second amplifier
 to receive a second portion of said differential signal to generate a differential
 output signal; and

20 a calibration unit to determine a difference between the gain of said first portion of
 said differential output signal and a second portion of said differential output
 signal and to adjust at least one of a gain associated with said first portion of
 said differential output signal and a gain associated with said second portion of
 said differential output signal based upon said difference to affect a
 25 longitudinal balance.

11. The apparatus of claim 10, wherein differential signal is a telecommunications signal.

5 12. The apparatus of claim 10, wherein said first portion of said differential signal is a tip signal and said second portion of said differential signal is a ring signal.

13. The apparatus of claim 10, further comprising:

10 a third amplifier to provide said gain associated with said first portion of said differential output signal;

a fourth amplifier to provide said gain associated with said second portion of said differential output signal;

15 a first current source electrically coupled to said third amplifier and to said calibration unit, said calibration to control said gain associated with said first portion of said differential output signal by controlling said first current source; and

a second current source electrically coupled to said fourth amplifier and to said calibration unit, said calibration to control said gain associated with said second portion of said differential output signal by controlling said second current source.

20 14. The apparatus of claim 10, wherein said third amplifier, fourth amplifier, first current source, second current source, and said calibration unit are housed in a subscriber line interface circuit (SLIC).

15. The apparatus of claim 14, further comprising a test load electrically coupled with an output terminal of a switch.

16. The apparatus of claim 15, wherein a first input terminal of said switch is
5 electrically coupled to said first amplifier, wherein said switch is capable of coupling the output of said first amplifier to said test load.

17. The apparatus of claim 15, wherein a second input terminal of said switch is
10 electrically coupled to said second amplifier, wherein said switch is capable of coupling the output of said second amplifier to said test load.

18. The apparatus of claim 15, wherein first amplifier, second amplifier, and said switch are housed in a subscriber line audio-processing circuit (SLAC).

15 19. The apparatus of claim 15, wherein said SLIC and said SLAC are housed on a single integrated circuit chip.

20 20. The apparatus of claim 15, wherein said SLIC is housed on a first integrated circuit chip and said SLAC is housed on a second integrated circuit chip.

21. A system, comprising:
a subscriber line; and
a line card electronically coupled with said subscriber line, said line card being adapted to:
25 provide a differential signal;

perform a calibration of a gain of at least a portion of said differential signal to affect the longitudinal balance associated with said differential signal, performing said calibration comprises:

receiving a first portion of said differential signal and

5 determining a gain associated with said first portion;

receiving a second portion of said differential signal and

determining a gain associated with said second portion;

determining a difference between the respective gains of said

first and second portions to determine whether said

10 difference is outside a predetermined range of tolerance;

and

modifying at least of said gain of said first portion and said gain

of said second portion based upon a determination that

said difference is difference is outside said

15 predetermined range of tolerance.

22. The system of claim 21, further comprising:

a first amplifier to buffer a first portion of said differential signal and a second

amplifier to buffer a second portion of said differential signal to generate a

20 differential output signal; and

a calibration unit to determine a difference between the gain of said first portion of

said differential output signal and a second portion of said differential output

signal and to adjust at least one of a gain associated with said first portion of

said differential output signal and a gain associated with said second portion of

25 said differential output signal based upon said difference.

23. The system of claim 22, wherein differential signal is a telecommunications signal.

5 24. The system of claim 22, wherein said first portion of said differential signal is a tip signal and said second portion of said differential signal is a ring signal.

25. The system of claim 22, further comprising:

a third amplifier to provide said gain associated with said first portion of said
10 differential output signal;

a fourth amplifier to provide said gain associated with said second portion of said
differential output signal;

a first current source electrically coupled to said third amplifier and to said calibration
unit, said calibration to control said gain associated with said first portion of
15 said differential output signal by controlling said first current source; and

a second current source electrically coupled to said fourth amplifier and to said
calibration unit, said calibration to control said gain associated with said
second portion of said differential output signal by controlling said second
current source.

20 26. The system of claim 22, wherein said third amplifier, fourth amplifier, first
current source, second current source, and said calibration unit are housed in a subscriber line
interface circuit (SLIC).

27. The system of claim 26, further comprising a test load electrically coupled with an output terminal of a switch.

28. The apparatus of claim 27, wherein a first input terminal of said switch is
5 electrically coupled to said first amplifier, wherein said switch is capable of coupling the output of said first amplifier to said test load.

29. The apparatus of claim 27, wherein a second input terminal of said switch is
10 electrically coupled to said second amplifier, wherein said switch is capable of coupling the output of said second amplifier to said test load.

30. The apparatus of claim 27, wherein first amplifier, second amplifier, and said switch are housed in a subscriber line audio-processing circuit (SLAC).

15 31. The apparatus of claim 27, wherein said SLIC and said SLAC are housed within said line card.